



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

US EPA RECORDS CENTER REGION 5



436028

March 20, 2012

REPLY TO THE ATTENTION OF:

Elliott G. Stegin, CEO

Paradigm Minerals & Environmental Services LLC

3754 Chemetco Lane

Hartford, Illinois 62048

Re: Hartford/Chemetco, Inc.

Comments on Pilot Plant Demonstration Report and Reprocessing Work Plan

Dear Mr. Stegin,

The purpose of this letter is to set out the information needs of the Illinois Environmental Protection Agency (IEPA) and the U.S. Environmental Protection Agency (EPA) to complete the review of your company's slag/sludge reprocessing plan for the Chemetco Superfund Site and so that the development of work plans will proceed quickly.

On August 25, 2011, Paradigm submitted its Pilot Study Demonstration Summary Report (Demonstration Report) to IEPA and EPA. The purpose of that document was to report on the assembly and operation of a pilot-scale treatability plant at the site, demonstrating the viability of the technology intended to recover metals and produce a product of economic value from materials left at the Chemetco Superfund Site.¹ The Agencies provided Paradigm with revised preliminary questions and comments on the Demonstration Report on October 5, 2011, and Paradigm responded on December 5, 2011. EPA, in consultation with IEPA, has the following additional questions and comments on the Demonstration Report and the Processing Work Plan.

Comments on Demonstration Report

At this time, the viability of the operation Paradigm is proposing is still in question. We attribute this to some data gaps that we hope can be readily addressed, but ultimately, if materials are to be sold as products from this operation the Agencies will first require a demonstration and evidence of the known market or disposition for each material to be produced from the process, and appropriate documentation to demonstrate that each material at issue is not a waste, such as contracts showing that a second party used the material as an ingredient in a production process,

¹ This work began with IEPA's approval of the work February 3, 2010, and the pilot plant operated for several weeks during the summer of 2010. On March 4, 2011 Paradigm submitted to the Agencies a Scrubber Sludge and Slag Processing Work Plan (Processing Work Plan) to describe contemplated activities associated with the on-site processing of metal bearing materials.

and appropriate documentation to demonstrate that each material at issue is not a waste, such as contracts showing that a second party used the material as an ingredient in a production process, or that the material is employed in a particular function or application as an effective substitute for a commercial product, or that material is to be reclaimed or regenerated to become a usable product, etc (See 40 CFR 261.2.). The need for this information was indicated in the Agencies' questions on the Demonstration Report (See 4.e.), and now is requested directly. We anticipate that responding to this request will not be difficult as Paradigm has reported that contracts for the entire output have been negotiated.

In a related vein, the Agencies need to see more analysis of the materials to be produced by Paradigm's process. We acknowledge the analysis presented in the Demonstration Report, however, we are requesting the results of a Commercial Quality (for total metals) Analysis. Alternatively, results of an analysis of the product by EPA Method 6010C, as stated in the Processing Work Plan, would also be acceptable. The Agencies would also like to see additional batches run through the first-pass process to generate the two products (from the soluble and insoluble treatment trains) Paradigm intends to sell initially, and for Paradigm to run the analyses described above on the products from these additional batches.

Initial Revisions to Processing Work Plan

To move forward, we need to receive Paradigm's plans and associated schedule regarding scale-up of reprocessing operations. The Processing Work Plan discusses this, and we request a specific outline of Paradigm's next steps and activities to reach functional operation of a 15-ton (per Processing Work Plan Section 5.3) or 50-ton per day processing plant at the site. We anticipate this outline would address the next 12 months (approximately) and the plans/steps going forward to address the additional design parameters discussed in Section 5.4 of the Processing Work Plan. The Agencies request a map of the areas of the site where Paradigm will operate, depicting what activities will be conducted in each area. We also will require an updated map of source areas Paradigm will utilize. We anticipate describing these areas and activities in the consent decree, as well as attaching these maps as appendices to the decree or work plans.

Lastly, the Processing Work Plan must include and address data and information needs as well as applicable or relevant and appropriate requirements (ARARs) that will apply to the work set forth in the work plans. As we have stated in our consent decree negotiations, ARARs for the reprocessing work must be identified and addressed in the Processing Work Plan, which will be attached as an appendix to the consent decree.

The Agencies suggest a technical meeting to discuss developing the plans, maps, and ARARs. We will be happy to assist you and discuss which ARARs apply in this case, and which specific information needs exist for this operation. To give you an overview of the requirements that are potentially relevant to your process, see:

<http://www.epa.gov/superfund/policy/remedy/sfremedy/arars.htm> for more information and guidance on ARARs, and <http://www.epa.state.il.us/land/regulatory-programs/permits-and-management/forms/hazardous-waste-instructions/permit-application-decision-guide.pdf> for more information on the types of information and data that would be needed to gain approval of this type of operation under the Resource Conservation and Recovery Act (RCRA). To be clear, not all of these requirements or information needs apply in this case. Further Paradigm will not be required to obtain a RCRA permit to operate the recycling/reclamation process. However, RCRA and other environmental requirements are well developed, and developing work plans and running a process consistent with such work plans will require Paradigm to engage experienced personnel qualified and trained in such requirements.

General Questions

In advance of our discussions on ARARs and other information needs, the Agencies have a few questions for which we request answers:

1. Where exactly did the slag fines used as feedstock in the pilot batch come from?
2. Were the 100 pounds of material used in the pilot project from the top/surface of a pile or were they collected by drilling down?
3. Which data were used by Paradigm to assess potential feedstocks at the site, *i.e.*, data from the Estate, data collected by Paradigm, or something else? And, was this information generated from representative samples of the piles (core samples) or from surface samples?
4. What kinds of chemicals are being used in the process, and in what quantities?
5. Paradigm's responses to the Agencies' questions on the Demonstration Report and the Processing Work Plan identify process water, spent activated carbon, deleterious material from feedstock preparation, dust, personal protective equipment, packaging, and equipment maintenance trash as wastes associated with the process. How will these and other wastes (identify, please) be handled, stored and disposed? Please describe and/or revise the Processing Work Plan to include this information.
6. Please provide to the Agencies a complete operation overview in a flow diagram showing all of the handling, treatment, and storage processes that will be employed from initial handling to sale of product or disposal of waste.

Thank you again for your continued attention to moving this process ahead. If you have questions about anything in this letter, please contact me at 312.886.8961.

Sincerely,

A handwritten signature in dark ink, appearing to read "Michelle Kerr". The signature is fluid and cursive, with the first name "Michelle" being more prominent than the last name "Kerr".

Michelle Kerr
Remedial Project Manager
Superfund Division

cc via email: Steve Zuber, Paradigm
Donald Samson, Estate of Chemetco
James Morgan, ILAGO
Erin Rednour, IEPA
Chris Cahnovsky, IEPA
James Kropid, IEPA
Greg Sukys, US DOJ

bcc: Thomas Martin, EPA ORC
Stephanie Linebaugh, EPA SFD
James Blough, EPA LCD